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EXAMINER	
TORRENTE, RICHARD T	

ART UNIT	PAPER NUMBER
2621	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/520,168	HUH ET AL.	
	Examiner	Art Unit	
	RICHARD TORRENTE	2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 January 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-31* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-31* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, filed 1/14/019, with respect to the rejection(s) of claim(s) 1-31 under Lee have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Liu.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 7-10, 17-20 and 22-25 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The claims disclose the process of comparing/determining temperature difference between a DC image (transform domain) and a decoded image (pixel domain). Obtaining temperature differences between the two images must be in the same domain for enablement. For the sake of forwarding the prosecution, the Examiner assumes that the decoded image is still in the transform domain.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1, 2, 5, 11, 12, 15, 21, 30 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liu et al. (US 6,959,042) in view of Applicant Admitted Prior Art (AAPA).

Regarding claim 1, Liu discloses a system to estimate a color temperature of a compressed video image and change the color temperature of the compressed video image (see abstract), the system comprising: a color temperature estimation unit (see 606 in fig. 6) to receive a video image (see 602 in fig. 6) compressed using a block-based discrete cosine transformation (DCT) (see 902 in fig. 9), generates a discrete cosine (DC) video image (see 902 in fig. 2) corresponding to the compressed video image, and estimates the color temperature (see 902 in fig. 9, where a DC represent the estimate of the brightness of the image) of the compressed video image using the DC video image; a decoder (see column 2, lines 18-20) to decode the compressed video image to generate an original video image (see column 2,lines 18-20); and a color temperature change unit (see 904-906 in fig. 9) to determine the estimated color temperature of the compressed video image or a color temperature of the decoded original video image as an application color temperature (see 906 of fig. 9) according to

whether the compressed video image is a moving video image (see “scene change” in fig. 9), and changes the color temperature of the decoded original video image in accordance with the application color temperature (see 906 in fig. 9).

Although Liu discloses changing color temperature and the user viewing the color temperature (see column 2, lines 33-36). It is noted that Liu does not discloses changing the color temperature preferred by a user.

However, AAPA discloses changing the color temperature preferred by a user (see P [0007]).

Given the teachings as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate AAPA teachings of user changing option into Liu color changing option as an upgrade for the benefit of having an option for a user adjust a display to view a desired color temperature.

Regarding claims 2, 12 and 30, Liu further discloses wherein the color temperature estimation unit comprises: a DC video image extraction section (see 902 in fig. 9) to extract DC coefficients of each of a plurality of (DCT) blocks from the compressed video image, each of the DC coefficients representing an average value (see 902 in fig. 9) of pixel values of each of the respective DCT blocks of the compressed video image, defines the DC coefficients as average pixel values (see 906 in fig. 9), and generates a DC video image composed of the average pixel values (see 906 in fig. 9); and a color temperature estimation section (see 906 in fig. 9) to estimate a

color temperature of the entire compressed video image from the color temperature of the DC video image.

Regarding claims 5, 15, 21 and 31, Liu, now incorporating the method of AAPA, the claim(s) recite analogous limitations to claim 1, and is/are therefore rejected on the same premise.

Regarding claim 11, the claim(s) recite analogous limitations to claim 1, and is/are therefore rejected on the same premise.

6. Claims 3, 4, 6-10, 13, 14, 16-20 and 22-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liu et al. (US 6,959,042) in view of Applicant Admitted Prior Art (AAPA), and further in view of Wee et al. (US 6,104,441).

Regarding claims 3 and 13, although Liu discloses generating DC coefficients of each of the DCT blocks in response to the compressed video image being a still video or an internally coded moving video image (see 902-906 in fig. 9).

It is noted that Liu does not disclose the steps in which the DC is obtained.

Wee, in the same field of endeavor, discloses multiplying DCT coefficients with respect to coordinates (0,0) of each of the DCT blocks by a predetermined constant (see column 13, lines 52-61).

Given the teachings as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate Wee teachings of

interframe-coding into Liu DC coefficient extraction for the benefit of upgrading the system to include interframe-coding. Interframe-coding reduces bandwidth by not transmitting repeated frames.

Regarding claims 4 and 14, Liu discloses wherein the DC coefficients of each of the DCT blocks of a current frame are extracted (see 902 in fig. 9).

Liu does not discloses the particular wherein the DC coefficients of each of the DCT blocks of a current frame are calculated as a sum of terms corresponding to four blocks of a previous frame in response to the compressed video image being an interframe-coded moving video image; and wherein each of the terms is determined as a product of a ratio of an overlapping area of a DCT block whose DC coefficients of the current frame are to be extracted and DCT blocks of a previous frame to the area of the DCT blocks of the previous frame and DC coefficients of each DCT block of the previous frame.

Wee, in the same field of endeavor, discloses a interframe-coding method wherein the DC coefficients of each of the DCT blocks of a current frame (see 325 and 363 of fig. 10) are calculated as a sum of terms corresponding to four blocks of a previous frame in response to the compressed video image being an interframe-coded moving video image (see 329-327 of fig. 10; see column 13, lines 22-27); and wherein each of the terms is determined as a product of a ratio of an overlapping area of a DCT block (precomputed matrices) whose DC coefficients of the current frame are to be extracted (see 371 and 369 of fig. 10) and DCT blocks of a previous frame to the area

of the DCT blocks of the previous frame and DC coefficients of each DCT block of the previous frame (see 371 and 327 of fig. 10).

Given the teachings as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate Wee teachings of interframe-coding into Liu DC coefficient extraction for the benefit of upgrading the system to include interframe-coding. Interframe-coding reduces bandwidth by not transmitting repeated frames.

Regarding claims 6, 7, 8, 16, 17 and 18, Liu, now incorporating the method of AAPA, discloses receives a decoded current frame from the decoder (see Liu column 2, lines 18-20), estimates the color temperature from the decoded current frame (see AAPA P [0010]-[0011]).

Liu does not discloses processing of the DC image with an interframe coded image and comparing color difference between frames with a predetermined values to determine a final color temperature.

Wee, in the same field of endeavor, discloses comparing a first color temperature difference (see 327 in fig. 10) between an estimated color temperature of the DC video image of a current frame (see 325 in fig. 10) and an estimated color temperature of the DC video image of a previous frame (see 329-335 in fig. 10) with a first predetermined critical value (see 373 in fig. 8, where the predetermined value which two path to take) in response to the compressed video image being interframe coded; and determines the application color temperature of the current frame by adding a correction function (see

373 in fig. 10) to the application color temperature of the previous frame; calculates a second color temperature difference (see 313 in fig. 8) between the estimated color temperature of the DC video image of the current frame (see 313 in fig. 8) and the estimated color temperature of the decoded current frame (see 313 in fig. 8, where the decoded frame is now a reference frame), and compares the second color temperature difference with a predetermined second critical value (see 314 in fig. 8) in response to the first color temperature difference being larger than the first critical value (see 313 in fig. 8 and 373 in fig. 10); and determines the estimated color temperature of the DC video image of the current frame as the application color temperature of the current frame in response to the second color temperature difference being less than the second critical value (see 315 in fig. 8); and determines the estimated color temperature of the DC video image of the decoded current frame as the application color temperature of the current frame in response to the second color temperature difference being larger than the second critical value (see 317 in fig. 8).

Given the teachings as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate Wee teachings of DC interframe-coding with predetermined calculations into Liu DC coding for the benefit of upgrading the system to include interframe-coding. Interframe-coding reduces bandwidth by not transmitting repeated frames.

Regarding claims 9, 19, 22, 23, 26 and 27, Lee further discloses wherein the first color temperature difference are obtained by multiplying inverse numbers (see 373 in fig. 10) of each color temperature by a predetermined coefficient (see 373 in fig. 10).

Regarding claims 10, 20, 24, 25, 28 and 29, Liu does not disclose wherein the first and second critical values are approximately 200.degree. K.

However, AAPA disclose wherein the first and second critical values are approximately 200.degree. K (see P [0005]).

Given the teachings as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate AAPA teachings of color temperature calculation into Liu color conversion system for the benefit of improving the correction of brightness of an image by having a numerical gauge as a reference.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to RICHARD TORRENTE whose telephone number is (571) 270-3702. The examiner can normally be reached on M-F: 7:30 - 5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mehrdad Dastouri can be reached on (571) 272-7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Richard Torrente/
Examiner, Art Unit 2621

/Young Lee/
Primary Examiner, Art Unit 2621

RT